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JUL 9 - 1912

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUNE

REPORT FOR WEEK ENDING JUNE 1, 1918.
(Except where otherwise indicated).

Akron:

The past week has been damp and cool and rather unfavora ble for field work. We have had some precipitation every day since the 26th. A part of the roads on the rotation have been graded and a part of the trees cultivated.

Winter rye on the green manure plats has blossomed and is being plowed under today. The soil is in good condition for plowing, being moist to a depth of about 8 inches. Many of the heads on the rye plats were blighted and would have made a very light grain crop if left to be harvested. Winter wheat is recovering rapidly and the most of it will make a fair crop if conditions are favorable from now until harvest. Spring grain is beginning to shoot and looks very well. Corn is up and is a very good stand.

Maximum temperature for the week, 83, on the 26th; minimum, 39; precitation, 1.56 inches distributed over six days.

Amarillo:

Cloudy and rainy weather with strong southeast wind has prevailed during most of the week. Rain fell every day except on May 26 and 31, giving us, since the night of May 24 to the night of May 30 in all, 2.04 inches. 1.20 inch of this came on the evening of the 30th. This at least has temporarily relieved the drouth situation and makes possible planting of the row crops which is now being rushed along and with good luck will be pretty much completed next week. Planting on the D.L.A. plats will probably commence about Wednesday, by which time it is calculated planting on the Cereal Office plats for the present will be done. During the past week the A plats of the row crops series were plowed, and those intended for listing were furrowed out in readiness for planting with the regular planter -- our experience in this locality having been that planting directly with the lister is not a success. All the row crop plats were also harrowed, and the few weeds left after this implement were hoed out so that all the plats are in perfectly clean condition at this time. The 1.20 inch of rain of Thursday evening came with considerable dash, leaving all but Spring plowed plats in smooth surface packed condition. As quickley as the plats dry off sufficiently, it is necessary to go over them with a harrow to prevent surface baking, as very dry, windy weather has followed the rainy period. From soil sampling, it is noted that the soil is moist down between six and eight inches. Wheat and oats on those plats - Fall plowed or Summer Tilled last season - will recover to some extent as a result of the rain. There are in evidence a few short heads on short stalks among the best of these crops. Wheat and oats on plats in crop or otherwise not in shape to catch and retain rain that fell last August and September, are dried out so that the little short growth can recover and benefit but very little from the rain.

Weather for the week was - Max.Temp., 93 on the 26th; minimum, 51 on the 30th; hourly wind, 13.6 miles; prec., 1.91 inch; evap., 2.346 inches.

May Climatic Summary - Ave.max.temp., 83; ave min., 53, and mean ave., 68, which is 4 degrees above the station normal for May. Average hourly wind velocity was 12.3 miles, which is the highest monthly average for any month ever recorded by the station anemometer, and 3 miles above normal for May. Precipitation was 2.39 in., which is .12" below our normal. Coming at

Amarillo, cont'd:

the end of the month also, it gives credit in the record for the month to which it is nor entitled, and shows how necessary in the study of rainfall it is to take into account the question of daily or weekly distribution. Evaporationwas 11.025 inches, which is over 2 inches above normal and the highest on our records for the month. Vapor Pressure was .270, which is slightly below normal.

Archer:

which

All the crops/are up and the range grass made a good growth this week. They have a very good color and the country is looking very attractive. Winter grains are starting to stem. The brome grass and the alfalfa seeded May 14th, are coming up. Planting corn for silage was finished this week. The D.L.A.corn planted May 16th is starting to come up.

Most of the week has been cloudy and damp. The precipitation for the week was 1.30 inches, and for the month of May was 1.69 inches. Evaporation for the week was 0.67. Maximum temperature, 76 on May 25th: minimum, 35 on May 26th and 27th; means, 61 and 38; ave.wind velocity, 9.8 miles per hour.

Ardmore:

Maximum temperature, 81; minimum, 34; total precipitation, 4.47 inches. Precipitation was recorded every day during the week. A rainfall of 2.47 inches was recorded from 6:00 a.m. to 6:00 p.m. on May 31st. This is the greatest amount of precipitation recorded in 24 hours since the station has been in operation.

Field work has been at a standstill. Some corn and cane is yet to be planted. Small grain and alfalfa are making excellent growth. Corn is in good condition, but will require warmer weather before making any growth.

Big Springs:

Maximum temperature, 95; minimum, 52; wind velocity, 10.7 miles; evaporation, 2.88 inches; precipitation, .02 of an inch. Precipitation for May, - (4th) .77, (17th) .40, (30th) .02, total 1.19 inches.

The week has been a period of high wind movement from the south. Much damage was done to planted crops and fields due to soil-blowing. Part of the field devoted to variety testing work, which was planted the previous week, had to be cultivated crosswise to stop the loose soil and sand from drifting over on other fields and the rotation plats. The rows in this block run north and south, and as the hard winds came from the south, the loose soil in the row was swept out in some places down to the planted seed. The rows in the rotations series run east and west, and practically no damage was done on these plats.

Milo, kafir, sorghum and peas are up to a good stand on most of the rotation and c.c.series. Cotton is coming up slowly and will have to replanted if we receive enough moisture in time to do so.

Miss Stone, Agent in Charge of Home Demonstrations Work in this part of the state, held a canning demonstration at the farm on Tuesday. She was

Big Spring, cont'd:

assisted by Mrs Mundell, who has been appointed home demonstration agent for this county this summer.

Colby:

The much needed moisture came in the form of a soaking rain on the 30th, after five days of misty weather. All crops are looking fine now. Winter wheat is beginning to head. It is a little short (about 18" high) for the heading stage, but is shooting considerably since the rain. The sorghums planted a week ago are germinating. Plants with spikes driven in them are being dragged through the lister furrows to break the crust and permit the plants to come through. Corn will soon be big enough to cultivate.

Weather for the week: - Maximum temperature, 90; minimum, 45; precipitation, 1.76". Precipitation for May, 2.12" - average, 2.32", 1917, 2.01".

Dalhart:

Rain fell on four different days during the week, the total being recorded was 3.28 inches. This brings the rainfall for the month of May up to 4.87 inches, which is a little more than the 10 year average of rainfall for this month, and is, with but one exception, the greatest amount ever recorded for May during that time. The greater part of this rain fell in heavy dashing showers, accompanied by some hail, and as a result, the ground is very badly crusted over. It is quite probable that the sorghums which were planted before the rain, and were not up at that time, will have to be reseeded. On account of the soil being too wet to work at any time, except Monday afternoon and Saturday, but very little field work has been accomplished. About half of the winter's supply of coal was hauled during the week.

Garden City:

A total of 2.83" of rain was received during the week, distributed as follows: .70" on the 28th; .09" on the 29th; .44" on the 30th; and 1.00" on the 31st. There was practically no loss from run-off, so the surface soil is in good condition for planting. Corn and part of the grain sorghums were planted on June 1st, and the remaining crops will be planted the first of next week.

Spring wheat on fallow is recovering since the rains and is growing rapidly, but will be very short. Most of the wheat on regularly cropped land was beyond recovery when the rains came.

Maximum temperature for the week, 88"; minimum, 50"; evaporation, 1.671"; precipitation, 2.23"; wind velocity (8' anemometer) 16.2 miles per hour, (2' anemometer) 11.3 miles per hour.

Havre:

Weather conditions during the past week have been very similar to those prevailing for the last six weeks. The range in temperatures has been large, no precipitation and fairly high wind velocity.

The rains during the week have improved the crop conditions wonderfully. Winter wheat on the plats which had reached a height of 24 inches was so dried, whipped, and apparently burned by heavy winds, which prevailed from the 10th to the 20th and looked as it it were ruined, is now making fair recovery. It is now about 50% headed and looks like it is good for 15 bushels per acre. Had conditions continued favorable from May 10th to harvest, we had a chance for some 45 bushel wheat, but the ten days wind made a great change in it.

Spring wheat is about 22 inches high, and no heads yet in sight. Oats from 12 to 15 inches high and about 1% headed. Barley 22 inches high and 50% headed. These crops all looking good, except for the fact that the heads are a little short due to the unfavorable weather mentioned above. Corn 3 to 5 inches, peas 12 inches and sorghums just coming up.

Huntley:

Rainy weather during the first half of the week prevented any extensive field work being done. Hogs on rye and brome grass pastures were weighed Tuesday. Because of the cold, wet weather, the hogs did not do much grazing and grains were light. The rye pasture is growing rapidly and the ten head of hogs have a hard time in keeping it down so clipping with a mower will be done to induce new growth and prevent the rye from maturing seed.

Bean varieties were planted, and in the Dry Land garden some of the latter vegetables were put in.

Corn is up on most of the rotations and in the silage plantings. Sunflowers in the silage plantings are also coming through.

Temperature for the week: maximum, 77; minimum, 35; precipitation, .64".

Judith Basin:

The precipitation for May was 2.69 inches, which is .19 inches below the average for the past 21 years. Precipitation records for March, April and May have all been below normal this year. Clear, but cool weather has been the rule for the past week. Maximum temperature, 72; minimum, 26; precipitation, .12 inch; evaporation, .398 inch.

Planting on the rotations was completed with the seeding of the Brome Grass plats, in the early part of the week. All summer fallow plats have been plowed double disced, and harrowed. A Garagana hedge has been planted on each side of the roadway leading into the station groups, and along the front fence.

The tractor is being kept busy plowing the large fields for summer fallow.

Lawton:

The hot, dry weather continues unbroken. With the exception of today, which is unusually quiet, high winds have prevailed daily for the last two weeks. Although crops have suffered during this time, they are still holding on. Winter wheat is just entering the soft dough stage. Nearly all of the

Lawton, cont'd:

leaves, except one or two at the top of the plants, are dried up. Spring wheat is showing the effects of drought much more than winter wheat. Corn has withered and rolled more today than at any time.

We have been having our annual round with the chinch bug, whose depredations are as severe as they have ever been in the past. The worst infestation so far has been in the cron plats and milo plats that are within a short distance of any small grain. Milo on 6 B has been destriyed, with the exception of about three rows. Two applications of five percent kerosene emulsion were applied to the infested corn plats, with some success. Some of the corn was injured and practically all of the young bugs that came in contact with the solution were killed. They continue to come in from the small grain, and it is doubtful if the corn will stand more spraying. We expect to continue the spraying and will try a solution containing Nicotine Sulphate.

A falling areoplane landed in Plat C, Rotation 8, on the 31st. This plat being fallowed and no damage was done to crops on adjoining plats. Plat C, however, was pretty badly cut up and packed by the trucks which removed the plane.

Variety tests of forage sorghums seeded June 1st. M.C.Broom Corn plats, except F & G were redeeded for the 3rd time May 29th. Plats F & G, which are listed, were so dry that seeding will have to be delayed until rain falls.

Mandan:

Horticulture.

A large amount of dead trees and brush was cleaned out of the older nursery plantings. Cultivation and hoeing is in progress.

Sixty varieties, two trees each, of Prof, Hansen's crossed apples were planted. The trees are to be kept in bush form.

An assortment of vegetable and flowering plants was set out. Ten thousand hand crossed tomatoe seedlings were set out into the field for selection purposes. Some time was spent in the office preparing tables and in the field the winter injury notes were begun.

On June 1st, invitations were sent out to all official horticulturists of the Northern Great Plains and adjacent areas, to meet at this station on August 23rd and 24th. All the men in this office are hereby invited to attend and take part in the discussions.

Agronomy.

The past week has been rainy and cool. It has been too wet for any field work of importance. Plats were trimmed early in the week, but it was too wet to put the roads in condition. A little corn planting was done for the Office of Corn Investigations. This consisted of an observation test and a stage of mayuroty test.

The total precipitation for the month was 2.45 inches. This is equal to the 40 year mean for this station. Max.temp.,82;min.,34;prec.,1.48".

Mandan, cont'd:

Mr. J. M. Stephens returned from a field trip of two weeks, visiting stations in the northern district.

Mr. A. J. Ogaard left some days ago for Montana, where he goes into County Agent work.

Mr. Roy Calhoun, Clerk, and Mr. Johnson, one of the teamsters, left the last of the week to join the army. They have both become 21 since last June.

North Platte:

We have been transported out of the semi-arid and into the humid section during the past week. A rain and hail storm Staurday night supplied .69 inch of precipitation. Rains occured daily for the next 5 days, in amounts from .03 to .84 inch. The hail was small but beat the ground down considerably and covered up a good deal of corn. The benefit from the precipitation, however, exceeds to a large amount the hail damage. Field work has been possible only one day, that is today.

Maximum temperature, 77; minimum, .40; precipitation, 2.56 inches. Precipitation for May, 3.45 inches , or .30 inch above the 43-year average.

Scottsbluff:

Cool, damp weather continued throughout the week, the temperature being far below normal. Various amounts of precipitation fell every day. A driving rain storm totalling 1.68 inches occured on May 31st and did considerable washing on all cultivated plats. Corn is just beginning to emerge on all the plats, excepting that in the listed furrows, which was covered quite deeply by the recent rains. Winter rye on several of the plats has obtained a height of 26 inches and alfalfa on Rotation 42C is up 14 inches. Mr. W. W. Burr visited the station on May 26th.

Sheridan:

It has rained on every day of the past week except one, and but a portion of one day was spent in the field. A date of seeding of wheat, oats and barley were seeded yesterday. The week was spent digging basements under the Superintendent's Residence and the Mess House preparatory to storing the winter supply of coal. A day was also spent grinding feed.

Precipitation for the month of May was 3.18 inches, which is .48" above normal for Sheridan.

Low temperatures and cloudy weather has characterized the past week, and the following data was obtained: Maximum, 75; Minimum, 31; Evaporation, .496"; average wind velocity, 4.2 miles.

Tucumcari:

We have just passed through another week of hot, dry weather, and at present there seems to be no relief in sight. There have been some good showers in the surrounding country during the weeks but we failed to get

Tucumcari, cont'd:

any of these. The total precipitation for the month was .21" which, with the exception of May 1910, is the lowest precipitation for this month for which we have records available. The precipitation for the month just ended is 1.21" below the 14 year average of this month. Our total precipitation to date for 1918 has been 1.79", which is 3.19" below the average for the same period for the years 1905 to 1916 inclusive.

The planting of sorghums in the date work made on May 15th has now emerged on everything except sumac; though it was thought at the time this planting was made there was little chance for germination to take place. The fourth planting in the sorghum date work is being made today. There is still considerable moisture in the soil at a depth of 8 or 10 inches below the surface, and we hope to secure germination of the seed in this planting. by the use of the disc furrow openers going over each row twice, running the planter empty the first time. This is merely an experiment and we shall continue to wait for rain before we do other planting.

During the week practically all of the plats which had not been given previous cultivation this spring were first disced to stop weed growth, which was getting a good start. The orchard was also plowed and the remaining weeds cut out with a hoe. Other work has consisted of odd jobs about the farm. An attempt was made to locate a supply of sand and gravel on the farm, but just as we thought our efforts were about to be crowned with success, we ran onto a strata of shale.

Weather for the week has been unusually windy, and there was considerable soil blowing on the farm. During the week we had several dust storms.

Maximum temperature for week, 90; minimum, 53; wind velocity, 10.8 mi. Evaporation, 3.047; precipitation, .04".

Woodward:

At last we have received an abundance of rain, for the time being, The wheat that was suffering so badly will come out to some extent and make a fair yield. The prospects now are good for a yield above the average for this section the last few years. Harvest will probably be begun hereabout the 10th of this month. Wheat is well along in the dough now and the berries well filled. It has a much better color than it had a week ago. The crops on the rotations are up in good shape and growing rapidly. The stand was rather broken in a few places before the rain, but since that time the seeds have germinated in those places and the stand is perfect. Most of the cowpeas that we plantedhave to be replanted. A good many of them germinated but the stand was too thin to leave. The high winds and blowing sand stripped them of their leaves. We can get along very nicely now without any more rain until after harvest unless we get a series of hot winds.

Some of the farmers are complaining of getting poor stands in their grain sorghum plantings. They claimed that the seed was no good and would not germinate.. We have personally inspected a large number of these fields that a poor stand was secured on. In a good many we found that the seed germinated in good shape, but the blow-sand took out the crop those windy days. On some others we found that the fault lay with the farmer largely.

Woodward, cont'd:

He had either planted too deep or too early. "Their methods of planting are with listers". In still other cases we found that the soil was very dry and that some of the seed was still germinating after others had been up more than a week. Since the rain the farmers will likely find that they are amply supplied with a stand. Some have delayed their planting until after it rained.

The rains came as follows: 0.24" on the 26th; 0.09" on the 27th; 0.57" on the 28th; 2.32" on the 29th; 0.25" on the 1st of June. Max.Temp., 93; min., 58; average hourly wind velocity, 10.9 miles; evaporation for the week, 1.630 inches; precipitation for the week, 3.47 inches.

NOTES:

At the end of June 30, 1918, all field men with transportation requests should mail same immediately to this office, as they cannot be used subsequent to that date, and the Office of Records requests that same be turned in as soon as possible after June 30th.

It is requested that field men have Oaths of Office and Personal Statement Sheets for new employees executed and returned to this office as soon as possible after they are received with original appointments, as the Office of the Secretary ha s requested that this matter be given prompt attention.

When requesting appointment for station employees, field men , in addition to giving the draft classification of appointee, should also state whether such classification was given by Local of District Board and the address of such board, and should also state reasons, if any, why appointee has been placed in deferred classification.

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JUNE 8

REPORT FOR WEEK ENDING JUNE 8, 1918.
(Except where otherwise indicated).

Akron:

The past week has been warm and dry. Crops on the station are in fairly good condition, but fields of wheat in this vicinity are needing moisture badly. Sudan grass and beans were planted during the week. About 1¾ acres of potatoes were planted during the week. Farmers are of the opinion that late planted potatoes are smoother than those planted earlier.

Maximum temperature for the week, 87; minimum, 51; prec., 0.05".

Amarillo:

The fore part of the week started in hot and dry following the rainy period of last week, but the past three days have been cool and cloudy, with gently falling rains coming mainly at night and amounting to slightly over an inch. From reports it appears that rains of late have been general over the drouth area of North and West Texas, varying in amount from an inch to several inches in different localities. This has certainly put new life into the situation around here, as it has created a fair prospect for an abundant row crop, as well as having improved the range situation for the stockmen. Planting operations are now on with a rush. The major portion of the sorghum plantings of the Cereal Office was completed by Wednesday noon and since then corn was replanted, 45 plats put into milo, and 22 out of 34 plats planted to kafir on D.L.A. ground. Yesterday and today the soil has been too wet for field work. The better plats of wheat and oats have revived greatly since the rains and promise some yields; other plats will produce some straw, but it is not likely that they will catch up enough to yield any grain. Weeds are also trying now to make up for lost time and the man with the hoe will presently have something to do. Our new spring tooth harrow was received today. It is an Osborne make, handled by the International Harvester Company, two section, 23 reversible teeth. It is hoped this implement will prove of advantage on our type of soil, both as a weed eradicator and as a means of maintaining a rough soil surface so necessary on our tight land, for catching and storing rainfall, or in other words, preventing run-off.

Mr. B. E. Rothgeb, of the Cereal Office, was here Tuesday and Wednesday looking after grain sorghum plantings.

Weather for the week was - maximum temperature, 88 on three days; minimum, 53 on the 1st. Hourly wind, 7.6 miles. Precipitation, 1.06 inch. Evaporation, 1.456 inch.

Archer:

Everything has made a good growth and is looking excellent. Corn on the D.L.A. plats, planted May 16th, is up and a good stand is showing, It was gone over with the weeder, which put the ground in fine condition. Fall rye is heading out. Winter wheat and alfalfa are about a foot high. Brome grass is a little short on the plats, but is making seed. There is an optimum supply of moisture in the soil that has been worked earlier, but stubble ground plowed this week for fallow, is a little in need of moiture. There has been no crust formed on the surface, as it did a year ago, and the flax is having no difficulty in coming up.

Archer, cont'd:

The maximum temperature of the week was 80 on the 5th; minimum 36 on the 2nd. Precipitation, 0.12". As a rule this week has had clear mornings and rain threatening in the afternoons; and apparently several heavy rains have gone around. Hail was reported twelve miles east.

Bellefourche:

The past week has been hot and dry, ans small grains are beginning to need rain. All of the spring grains are commencing to form straw. Winter rye has headed.

Gophers have damaged the corn on a few rotation plats to a small extent. Poisoned corn was used in killing the gophers.

Alfalfa, both on dry and irrigated land is ready to cut. This is more than a week ahead of its normal time of maturity. Alfalfa on dry land is now firing to some extent.

Maximum, 91; minimum, 45; precipitation, .27 inch.

Big Spring:

This county was visited by a good general rain extending over Thursday, Friday and Saturday of this week. The long drouth experienced by this section is at last broken. Maximum temperature for the week 93; minimum 64; wind velocity, 6.1 miles; evaporation, 2.00 inches; precipitation, 3.19 in. The above precipitation includes up to Saturday morning and the prospects for more are good. The rain came in such a manner that very little loss occured from run-off. This moisture will be of immense benefit to the stockmen and farmers. It was the most precipitation received for any one month since August, 1916.

Of the crops planted before the rain, we had secured a good stand on about 125 plats in the rotation and c.c.series. These crops include, milo, kafir, sorghum, corn, cowpeas, Mexican beans, and broomcorn. Spanish peanuts planted in the rotations before the rains are showing up nicely now and we expect to secure a stand on all the plats with this crop. Cotton will probably have to be replanted. The coming week we expect to plant the variety and field crops.

Colby:

This week has been somewhat cooler and quite cloudy most of the time. Rain threatens every day, but, so far we have had only a trace since May 30th. Wheat is headed and the spring grains will be in a few days. Corn is growing well and will be cultivated as soon as all the sorghum planting is finished. It was found necessary to replant all the sorghums which were put in before the hard rain of last week.

Weather for the week: Maximum temperature, 91; minimum, 45; average hourly wind velocity, (8') 9.6 mi., (2') 6.4 mi.; evaporation, 1.368"; precipitation, T.

Dalhart:

The weather during the past week has been favorable to crop growth and for field work: all of the rotations and the greater part of the co-operative work has been planted. On account of the heavy rains which occured last week, it was necessary to do some replanting. All of the crops that are up are making a splendid growth, while those that were planted the last of last week and the first of the present week, have germinated and are starting through in good shape. With plenty of moisture in the soil and weeds well under control, crop development should be rapid during the next few weeks.

Maximum temperature for the week, 86; min., 52; prec., .36 inches.

Garden City:

The past week has been favorable for field work and all planting was completed during the week with the exception of millet plats.

Corn planted on the 1st is up to a fair stand and milo is beginning to show up.

The first cutting of alfalfa on irrigated land was made during the week and is of good quality and fair tonnage.

Maximum temperature, 90; min., 54; prec., .07";evap., 1.470"; wind velocity (3') 10.2 miles per hour; (2') 7.1 miles per hour.

Havre:

The weather conditions during the past week have continued dry and windy. Temperatures are graduälly getting higher and the winds now are almost hot. The outlook is very serious and unless there is rain the coming week, the prospects for a crop will be very poor.

Rye and sweet clover, which was seeded last year without a nurse crop, have made a fair growth. Alfalfa in row is about the same as it was last season. Rye for green manure will be turned under the coming week.

It is doubtful if there will be any corn at all on spring plowing. That on fall plowing and fallow is coming up. Potatoes planted on fallow are making a fair growth.

Precs since January 1st, 1.99", the most of this falling as snow during the winter months. Precipitation during May amounted to .08", was the smallest amount for any month during the growing season since 1880, with the exception of April 1914 when there was .04".

Hays, report for week ending June 1, 1918:

The weather during the past week has been generally warm, cloudy, and damp, having had several showers: very favorable weather for the small grain crops to continue making recovery from hardships of wind and drouth during the middle of May. The prospects at present are good for some heavy wheat on the project. With reasonably fair weather from this time to harvest, there is a possible chance for some 40 bushel yields on the best plats.

Hays, report for week ending June 1st, cont'd:

Oats and barley never looked better than at present, and spring wheat is about 30 inches high and beginning to head. Some of the winter wheat is three feet high.

A fair stand of corn was secured and it is beginning to make nice growth though it is not tall yet. A fine stand of kafir, milo and cane has been secured. For a time it was feared the sorghums would all have to be replanted, as continued wet weather followed the planting, but fortunately the ground was warm and did not get cold as is usually the case after rains this time of the year. As a result, germination was very good, even where the ground was under water two or three days.

Weeds are making rapid growth. Work is piling up on account of the wet weather which has prevented and field work worth mentioning for two weeks.

I beleive it was not mentioned in my last report that a cyclone passed in a northeasterly direction about twelve miles north of this place on the nightof May the 20th. About 15 people were killed or died of wounds, and much propertywas destroyed, one or two of the little towns in the path of the storm were completely wiped off the map. This storm, for considerable distance, traveled the exact path of a cyclone which passed one year ago to the day, there only being a few hours difference in the time of day.

Hays:

The past week has been generally cloudy and cool, yet warm enough to encourage a fair growth of corn and sorghums. Although cloudy and very threatening several times during the week, no rain fell to interfere with field work. The teamster has spent the entire week cultivating corn, kafir, milo, sorgo cane, reserve plats and borders. Weeds are thick and making a rapid growth.

Small grains of all kinds never looked better on the project than now; winter wheat is from two to three feet high,- some of the fallow plats a little better than three feet. Spring wheat nearly as tall and just heading. Barley and oats two feet and better in places. Winter wheat and barley harvest look to be about three weeks off.

Soil moisture determinations have been in progress all week. In the winter wheat plats it appears that the late rains have not wet the ground deeper than the first foot, as the second is dry and hard, except where the ground has been fallowed. However, the wheat looks fine on all methods of seed bed preparation, except on kafir stubble. It is a little thin and weedy on some of the corn stubble plats.

Having been delayed considerable by the rains the station is still seeding sorghums. Alfalfa haying is also in hand at the present time. Although we now have forty seven employees on the station at present, we are short of help. Sorghum planting and cultivating on the Cereal and Forage projects and general fields, weed hoeing and cultivating in the Forest nursery, alfalfa haying and corn cultivating on the general farm has made up the program for the week.

Maximum temperature, 89, minimum, 57; precipitation, .02".

Hettinger:

Weather getting very warm and with the present amount of moisture in the soil, the crops are growing rapidly. The cut worms are doing a great deal of damage with the corn on all the corn plats. It looks as if many will have to be replanted. Have harrowed all of the plats twice in hopes of driving the cut-worms deeper. Have cultivated all alleys on the Dry Land Plats the past week, as well as on the grain variety trials.

Weather for the week: maximum, 79; min., 47; prec.,.46".

Huntley:

The past week has been very warm and most of the days have been windy, Though there is apparently plenty of moisture in the soil, crops, especially flax, have a wilted appearance during the middle of the day. However, all crops are making a very good growth.

Potatoe and bean varieties are up and the former are already covered with potatoe bugs, which seem to be unusually numerous this year. Cut worms have done considerable damage to the Dry-Land garden, but have made no noticeable attack on field crops.

Hogs on rye pasture and the alfalfa pastures were reweighed early in the week. The average daily gain for the past 14 days was 0.7 pound per pig for the rye and 1.0 pound per pig for the alfalfa pasture. The rye plat was clipped with a mower to induce a new growth of forage.

Roads on Field H were disced and plowing of summer fallow is now in progress.

Soil samples taken on the M.C. corn plats show the moisture to be well into the 5th foot. This is equal to or better than the moisture content of the fallow plats in Rotation 570, one of which is fallowed for three years.

Temperature for the week: max., 87; min., 43; prec., T.

Judith Basin:

Clear and warmer weather has prevailed during the lasttweek. The warm weather has induced crops to grow more rapidly, but rain is now needed. Maximum temperature, 78; minimum, 37; evap., 1.290 inch; prec., none.

Work during the week consisted of trimming plats and discing and grading the roads to kill weeds.

Corn planted on May 4th is just coming up. Winter rye has headed out and will be plowed under in a few days. Winter wheat is at present in the jointing stage. It looks better on the fallowed plat than on the others of the c.c.series. Stands of winter wheat are poor in some of the rotations in the west field, particularly following fallow in rotation 118.

The rather cool weather which, until June 1st, was general throughout this region tendered to retard the growth of field crops, but at the same time, induced an unusually rapid growth of weeds, especially of mustards. A great many fields already have a decided yellowish cast produced by the blooms of the early maturing tansy mustard which, according to local farmers, is far more noticeable in the Basin than ever before. Some farmers, in fact are of the opinion that the tansy mustard is replacing the better known tumbling or "Jim Hill" species which, it is true, does not appear to be very plentiful this year. Whether the latter species will appear in greater num-

Judith Basin, cont'd:

bers later in the season remains, of course, to be seen. It may be that the earlier maturity of the tansy mustard is somewhat misleading.

Other members of the mustard family which are present in unusual numbers this season are Shepard's Purse and Field Pennycress, the latter known locally as "Fanweed". While not much has been said about the former, a great deal of comment has been heard relative to "Fanweed", which threatens to become a serious pest here, unless immediate and constructive steps are taken to eradicate it. It's presence in the Judith Basin has revived serious consideration of the advisability of enacting weed laws that would make possible the eradication of "Fanweed" before it obtains too firm a hold in this region. Through presistent efforts on our part, we have been able thus far to keep the station free of "Fanweed", but, with foul spots on all sides of us, our fields are constantly threatened with invasion by this pest in uncontrolable numbers.

Lawton:

The past week has been in marked contrast to any that we have had during the present season. About 90 percent of the time it has been cloudy and gentle rains falling at close intervals throughout the entire week, amounting to 2.34 inches. Wind velocity has been unusually low and the maximum temperature for the week was 97. Much of the wheat throughout the county was too far gone to be benefited by these rains and most of the oats will be an entire failure. All other crops have made very rapid growth as well as the weeds. Some of the oast will be harvested within a day or two, also the spring wheat. Wheat will not be ready before the last part of the week.

The major portion of the work of the week has been confined to combating the chinch bugs. However, the rainy weather made it impossible for field work part of the time and some plats of milo have been entirely destroyed. At presnet we are able to combat with partial success by use of 10% kerosene solution. Weather conditions have made such a strong solution possible. Ordinarily this would be rather destructive to the plants. Tar lines have also been of some advantage when it was not raining. The hardest part of the fight is yet to come as the bugs are now attempting to leave the small grain plats in swarms. We expect to have a large moveable blow torch within a day or two and hope to burn the small grain stubble as rapidly as the grain is harvested. In the meantime what harvesting is done will be followed with concentrated spray solutions. The blow torch mentioned has been very successfully used in cleaning up the Pink Boll worm in certain infested cotton districts in Texas.

Mandan:

Horticulture.

The week was largely spent in cultivating and hoeing. All the ornamentals hedges were clipped. A number of these are very excellent.

Corn and Dwarf Milo were planted in rows North and South in most of the Plum and Apple plantings. The stalks are to be left standing to fur-

Mandan, cont'd:

nish local winter protection.

All the Plums in the variety orchards and in the seedling blocks were sprayed with Lead Arsenate to prevent injury from the Curculio and the Plum Gouger, which did some damage last year.

The dead wood on trees and shrubs on the grounds was pruned out. The Potatoes were harrowed. Hoeing and other routine work with vegetables and flowers.

Notes on the winter injury were taken on practically all the plantings this week. Fruits have suffered more than last year, while shade and shelter trees show little or no injury as compared with other years. The Chinese Elm on the better soils is an exception, having suffered very severely.

Agronomy.

The roads have been put in shape during the week, and all the alleys cultivated. Mr. Dillman, being here part of the week, looked after the planting of the Sorgos and Millets. Notes were taken on the winter killing in the Winter Hardiness tests of Alfalfa. The Corn in the Rotations was harrowed once, while the most of the other corn was cultivated. Hemp and Sunflowers are now being thinned. All grains are making a very rapid growth. The recent rains have put the ground in fine shape, and there is plenty of moisture.

Graxing.

The well-drillers have struck a good flow of water at 500 feet, it is not in fine sand as was the other vein. Cattle were weighed early in the week. They have made heavy gains for the past fourteen days, but those in Small Pasture did not make as heavy gains as those in other pastures. The first clipping on the clipped quadrats was made this week. All plants show a heavy growth for this part of the season.

Messrs. Biggar and Free, of the Office of Corn Investigations, were here during the week.

Arboriculture.

Cultivation has been carried on in all fields of both conifer and deciduous stock. Hoeing has also been necessary among the seedling ash, boxelder maple and buffalo-berry. The 2-2 stock transplanted this spring is looking well and has begun to make a good growth, except for the Jack pine which was inferior stock.

In the conifer seed beds, the Jack Pine, Black Hills spruce, Canadian White spruce, and Lodgeploe pine have germinated and are looking fine, having come thru the rainy period of the last two weeks with but very little damping off. The western yellow pine seed has not begun to show thru the ground as yet, and very likely will make a poor stand as the germination of the seed received was low.

R. O. Danson arrived Wednesday to assist in the shelterbelt work both at the station and in inspection work in Montana, North and South Dakota and Wyoming, which will begin during the coming week.

A. J. Ogaard, who was assisting in this department temporarily, left a week ago Sunday for Montana, where he will do farm bureau work in the Extension Service of the Agricultural College, with headquarters at Bozeman.

North Platte:

We have experienced during the past week the most favorable crop conditions so far this season. As was to be expected, spring grain crops have made a rapid recovery from the hail damage of the previous week. Winter grain, on account of being further advanced, will not recover completely.

Green manure rye was plowed under yesterday. The crop was thin on the ground and probably would not make more than a ton of dry matter per acre.

Corn plats are receiving the first cultivation today.

Maximum temperature, 84; minimum, 54; precipitation, .72".

Scottsbluff:

Weather conditions the past week have been the most favorable to crop growth since the beginning of the season.

So far we have had an abundance of moisture and corn and all small grains are making rapid growth.

A few of the corn plats, however, were damaged slightly by the inroads of gophers and ground squirrels, but these pests have been successfully combated by the use of strychnine poisoning.

A stand was not obtained on either the alfalfa or clover plats and these were reseeded during the week.

Winter rye, which had obtained a height of 32 to 36 inches, was plowed under the week.

Mr. H. W. Thurston, Plant Pathologist, spent the fore part of the week on the station.

Maximum temperature for the week, 83; min., 32; prec., .27"; evap., 1.230.

Sheridan:

The past week has been a growing week for crops, while temperatures have not been high, the change from cool weather to warmer has been gradual, and crops have been greatly helped rather than hurt. Another helpful factor in the weather the past week, has been the low wind velocity, allowing the plants to stool and shade the ground, without the loss of much moisture from the soil through evaporation.

Winter rye has grown at least a foot during the past week and has fully headed out, standing about 3 foot high at present. Winter wheat has stooled a great deal this spring, in fact it appears on nearly all plats to have become too thick, and unless we get some summer rain it will suffer from drought even with the abundant supply of moisture in the soil at the present time. But if we get summer rains we will be expecting a big winter wheat crop. It is jointing now and will begin to head within a week or ten days.

The last of the potatoes, except a date of planting, were planted as well as sudan grass, sweet clover, millet, beans and some garden crops during the week. Early planted potatoes are now coming up as well as the garden.

Trimming of plats was begun, ans work has been progressing on the basements under two buildings in which to store the coal for the winter. Some gravel hauling for the concrete work on the basements has been done, and the concrete wall and floors will be run next week.

Sheridan, cont'd:

Grass is growing very fast, and a good share of it is now in bloom. Pastures are very fine this spring, and seem to be ahead of this date last season.

Weather for the past week was as follows: max., 31; min., 35; wind vel., 3.6 miles; evap., 1.085; prec., .02 in.

Tucumcari:

We are still having warm dry weather, and there now seems no prospect of a change in the near future. Mr. E. M. Yates, County Agricultural Agent for this county, reports that only about 15% of the county received sufficient rains for the planting of crops. Optimistic expressions on crop prospects for this year are becoming more scarce every day.

Work on the station for the past week was confined to doing odd jobs; and the latter part of the week was started on cutting yucca in two of the station pastures. About four acres have been cut over to date. With the exception of killing weeds, field work in the plat fields is practically at a standstill until we get a good rain. Red amber sorgo, which was planted on June 1st in the date work, has emerged with an excellent stand, and dwarf kafir, dwarf milo, are now coming up with promise of good stands. The moisture zone is now very shallow and the sorghums that are now up will probably not last long without additional moisture in the near future.

Maximum temperature for the week, 90; minimum, 53; evap., 1.943"; wind velocity, 6.2 miles.

Woodward:

This has been a splendid week for crop growth. We finished all the plantings by Thursday pm. The last date of cotton that was supposed to have been planted on May 25th, was planted on June 3rd. It could not be planted sooner on account of the soil being so dry and a danger of its being blown out if it came up. As soon as it got dry from the rains of last week, we began to plant, and kept the planter going until everything was planted. The variety cowpeas and the cowpeas that had to be replanted, were planted on the 4th. We commenced the thinning work on the 5th. We finished the corn by noon of the 6th and began on the broom corn. We will rush this work thru as rapidly as possible and try to finish before harvest, as some of the boys may leave us to work thru harvest at higher wages. The fertilizer was applied to the fertilizer plat of milo this week and the kafir planted where the same experiment was carried on last year. All the D.L.A. plats were cultivated this week that are cropped, and the young plants showup wonderfully. The corn is better than knee high and growing rapidly. The alfalfa on the east field was cut and hauled in without getting much rain on it. We got in in in good shape and with a good color. A top dressing of manure was applied to the continuous milo and kafir plats in the new rotations begun this year. This was applied just before cultivating the plats.

Wheat is filling in good shape in most places. Some of it was blown out a little farther west of here and the farmers have listed in kafir and milo where the wheat was. They seem to be having a very poor success at i

Woodward, cont'd:

getting a stand this year. Most of them are replanting for the second and third time. They tried to rush the season too much on the start and then replanted when it was too dry or else they blew out. Some, of course, got good stands when they planted, but the crop was covered during the rains we had last week by the dirt washing off the ridges. Some of the farmers secured a good stand at the first planting and it is doing fine now.

We have had some more rain since the last writing. On the 4th we got a light sprinkle amounting to 0.01", on the 6th we got a quiet rain amounting to 0.50" and on the 7th it rained all day and all night, this amounting to 0.75" making a total of 1.26 inches for the week. Max. temp., 92 on the 3rd; min., 61 on the 7th; average hourly wind velocity, 6.2 miles; evap., 1.285 inches.

NOTE:

Further instructions have just been received, that when requesting appointments, if any appointees are of foreign born, naturalized parentage, and became citizens by virtue of the parents taking out naturalization papers, the place parents took out naturalization papers and the date of their naturalization must be furnished. Field men will please be guided accordingly in requesting future appointees of this character.

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUNE 15

REPORT FOR THE WEEK ENDING JUNE 15, 1918.
(Except where otherwise indicated)

Akron:

The past week has been very hot and dry. All small grain is suffering from drought and our chances for a crop are getting less every day. Winter wheat is in blossom andoats, barley and spring wheat are heading. Corn is a good stand and growing rapidly. Nearly all of it was cultivated for the first time during the week.

Maximum: 98-13th, minimum 56, precipitation-none.

Amarillo:

The week has been one of cloudless sky, rising temperatures and moderate south winds. Row crop planting delayed the latter part of last week on the D.L.A. plats, was finished up Monday, but due to dry, warm weather rapidly reducing moisture from near the surface of the soil and also forming something of a crust, the milo and kafirs are coming on with somewhat broken stands. Replanted corn, the cowpeas and pinto beans are up with fair stands. Weeds also are threatening to overtake us. Work in the fields having been delayed so long on account of drouth, has crowded in on us. Planting on the station will however be practically finished to-day. We shall then have some 90 acres in sorghums and cowpeas. The way weather has turned out since the recent rains we shall soon have to have more rain in order to get a proper start on our row crops so as to maintain moist soil contact for the roots while becoming established to substantialldepth.

Weather for the week: max. 95-14th, min. 59-8th, hourly wind 4.8 miles, precipitation - trace, evaporation 1.939 inches.

Archer:

This has been a very good week for crop growth. The corn has made a very good growth and shows a very good stand. The surface of the corn plats is loose and free from weeds. Brome grass is headed out and will be cut for hay next week. The alfalfa is starting to bloom. Winter rye is all headed out and winter wheat is starting to head. Potatoes and beans are up. There is much volunteer barley in the fall plowed M.C. plats. There are places in the spring grain where water stood after the last rain, showing distinct yellow spots and need of rain. Where the ground was worked immediately after the last rain there is an abundanne of moisture.

Maximum: 92-14th, min. 50-9th, means 87 and 54, precipitation-0, evaporation 1.825", wind velocity 5.4.

Ardmore:

Maximum temperature 91, minimum 52, no precipitation. The weather throughout the week has been abnormally hot for this season of the year. The surface of the soil has dried out very rapidly, and small grain is beginning to suffer although there is an abundance of moisture in the second

Colby:

Hot, dry weather has prevailed all week. On three days the temperature was very high and the wind was hot with a damaging affect on all the crops. The spring grains are firing rather badly, except where they are on summer fallow. The winter wheat is not suffering much and is filling well. Corn is now over a foot high, but the sorghums are not up yet. The seed bed has dried out so that the sorghums will probably not come till it rains. The rye on the plats was turned under Staurday. The amount of material turned under was rather large, the rye averaging a height of nearly three feet. The fallow plats are being plowed now.

Weather for the week:max. temp., 103; min., 58; prec., 0.

Dalhart:

All of the planting as well as some reseeding was done during the week. All of the crops that are up are making a splendid growth and as the weather is warm it is probable that no further reseeding will be necessary. Corn is about eight inches high and milo and sudan about 3 inches. With the exception of a few of the fallow plats, all of the farm has been worked since the rains and is in good condition with the weeds well under control. So far as crops are concerned, the station is in better condition than it has been at this time of the year for several seasons. The first real summer weather of the season has occured this week when the lowest maximum temperature recorded was 78; the most of the time it was above 90. Only .36 inches of rain has been recorded during the month of June, but there is still plenty of moisture in the soil, except where weeds and grass are growing. Maximum temperature for the week was 98; minimum, 57; prec., 0.

Garden City:

The past week has been very warm, with hot winds on the 14th and 15th, which did considerable damage to the growing crops. A good stand of corn, cowpeas and sudan grass has been obtained and a rather poor stand of milo and kafir. Corn and cowpeas were cultivated and the large weeds that escaped the cultivator were cut with a hoe. Weeds were also cut from the alley ways.

Maximum temperature, 103; minimum, 59; evaporation, 1.959"; prec., 0.0"; wind velocity (8' anemometer) 8.6 miles per hour, (2' anemometer), 5.5 miles.

Havre:

The past week has been a very severe one. On 6 days the temperature has been above 94 and on 3 days these high temperatures have been accompanied by strong northwest winds. Because of the dry cool weather early in the season, the spring grains have not made much growth. The stools, however, are mostly burning. A commercial field of 10 acres of rye was cut for hay during the week. This averaged about 40 inches in height. Many of the heads were dry when this was cut. Rye on fallow is in better condition. Rye for green manure was turned under during the week. These plots had a heavier growth than last season, due largely to the large amount of moisture in the soil this

Havre, cont'd:

spring. Peas for green manure are beginning to flower at a height of about 5 inches. Sweet clover for green manure is in bloom and will be plowed under soon. Irrigated alfalfa on the station is very good this season and will be ready to cut the coming week.

Crops in this locality are surviving the extreme conditions better than they did last year. If rain comes before the 20th of this month there may be a half crop or perhaps better.

Hays:

Maximum temperature, 105; minimum, 54; prec., 0; hot winds, several.

The weather has been not only dry, but very warm and breezy at times with hot winds during the middle of the day.

All small grains are suffering severely. Winter wheat is drying up rapidly. Only the fallowed plats are able to withstand the severe conditions. It still is quite green and filling much better than the other methods. It looks as if we will need to commence harvesting about Thursday. Spring wheat - fine, tall straw and heads, but it is drying up without filling. The drought has caught it a couple of weeks too soon. It is very much the same way with the oats. Barley is more forward like the winter wheat and there will be a fair stand on most of the plats. It will also be ready for harvesting by Thursday or Friday.

The row crops are in need of rain or cooler weather. They have not particularly suffered yet, but are wilting, and would grow much faster with more moisture or cooler weather.

During the week the corn has been cultivated, also all the sorghums. Corn on reserve plats harrowed. Corn, cane, and milo have been thinned, and kafir is now being thinned. Plowing of fallow plats has been finished, and the peas were plowed under.

Soil moisture determinations were made on all the methods of wheat. Samples were also collected for nitrate determinations.

Acting Dean and Director Call and Prof, Parker, from the Agricultural College, are visiting the station today.

Huntley:

Unusually hot weather has prevailed during the past week. The maximum temperatures have ranged from 95 to 103, the higher temperatures being accompanied by hot winds. Winter wheat on the stubbled-in plats and on some of the fallow plats where the stand is thick, is beginning to burn. Spring grains and corn, as yet, show no signs of drought, other than a wilted appearance during the warmest part of the day.

Peas, rye and sweet clover, in the green manure rotations, are blossoming and are ready to be plowed under.

Early plowed summer fallow plats were disced down and all row crops were cultivated during the week. Beans in the variety and cultural test were thinned The straw mulch was applied to that part of the dry land garden and the potatoes varieties to be used in the mulched and clean culture experiments.

Hogs on the brome grass pastures showed andaverage daily gain of .77 lbs.

Huntley, cont'd:

for the broadcast plat and .85 lbs. for the row plat, during the past 14 day period. The broadcast plat is being grazed very closely and, unless we get rain, it will not last much longer. The row plat still has plenty of forage, but it is rather coarse and many of the plants are blossoming. Alfalfa pastures still have plenty of forage, but they are beginning to burn for lack of moisture. Sweet clover is in bloom and ready to cut for hay. These plats are also showing some signs of drought.

Maximum, 103; minimum, 53; prec., 0.

Judith Basin:

The past week brought some of the warmest June weather ever recorded at this station. The thermometer registered 90 or above on five days out of the seven. Light showers fell on the 13th and 14th, but were not heavy enough to do any material good, and crops are in need of rain. Maximum temperature, 95-minimum, 47; evaporation, 2.062"; prec., .14".

Work at the station included plowing under the rye plats in the rotations for green manure, hoeing weeds out of roads and pulling them out of plats, plowing land for summer fallow, and hanging gutters to catch rain water for the cistern. A pressure tank and pumps, for the water system, have been ordered.

While crops are growing slowly on account of the low supply of soil moisture, no burning has yet taken place, and good yields may yet be obtained if the rainfall is adequate in the latter part of this month and in July.

Lawton:

The maximum temperature for the past week ranged from 93 to 100. There has been but a limited amount of wind movement, and the heat has been oppressive. All crops have made rapid growth, but corn has been wilting and rolling during the last two days. Most of the corn is more than shoulder high at the present time. All of the grain sorghums and cotton have made excellent growth during the week. Rain amounting to 0.53 of an inch fell on the 7th and 8th. Crops have grown with sufficient rapidity to deplete the moisture that has fallen during the first ten days of June and we are again needing more rain. All of the wheat was harvested during the week and most of the oats. Two of the oat plats are so poor that they will not be harvested. Wheat was very light and badly shriveled.

The major portion of the work during the week was directed against the chinch bug attact. Altho the work has been hard and rather discouraging at times, it is believed that we will be more successful this year than we have been at any time in the past. Unusually quiet weather during the last two weeks has made it possible to do many things that failed in the past. Cotton was chopped on the 14th.

Mandan:

Horticulture.

A collection of plum hybrids was gathered in our greenhouse. Apple buds were tied up and stumps sprouted. Cultivating of the different nursery blocks

Mandan, cont'd:

forest and forest tree combinations, was carried on throughout the week. Seedling beds were throughly watered, and hoeing carried on. Brush from old nursery was burned. Corn was planted in South Orchards for winter protection. Notes were taken on herbacious perennial flowers, and small fruits in regard to Winter Injury, blossoming period, etc. Routine work with vegetables, such as cultivating, weeding and replanting. Work on the campus was carried on, such as pruning of shrubs and trees, and shearing of hedges.

Agronomy.

The weather has been exceptionally warm. Crops have continued to make a rapid growth. The summer fallow plats were plowed, and harrowed once. The first cultivation of the field corn was completed. The hemp., sunflowers, and other miscellaneous row stuff have also been cultivated. The hemp and sunflowers were thinned two feet apart in the row.

Max. Temp., 100; min., 54; prec., 0.

Arboriculture.

Field work this week consisted of cultivating and hoeing, besides the ha d weeding of the conifer seed beds. The tree seed planted this spring is all up and looking well; the cuttings have now about all begun to leave out. Owing to the hot days of this week, the conifer seedlings have wilted despite the watering each day. This has been particularly noticable among the Black Hills Spruce.

Mr. Henchel left Tuesday for an inspection trip up to the North Branch of the Northern Pacific to Killdeer, and reports that many plantings do not look look their best on account of the shortage of help. Mr. Cobb and Mr. Danson inspected plantings north and south of Mandan Wednesday and Thursday in the car, travelling about 185 miles. But little winter injury took place among those visited, tho the rabbits made havoc with the ash and elm, eating them to the snow line. These of course sprout again, tho are retarded in their growth.

North Platte:

The week has been dry and hot. Corn has made a rapid growth and is in very good condition. Spring grains are just coming into head. No firing has as yet taken place, but all grain crops are about holding their own and a few more days of dry hot weather will cause considerable injury. The first cutting of alfalfa is nearly all in stack.

Maximum temperature, 96; minimum, 55; prec., 0.

Scottsbluff:

The past week has been one of very high temperature. Only two days out of the week did the Mercury fail to climb above 90 degrees. Vigorous weed growth has started since the warm weather has began, and the week was spent trimming and shaping the plats and killing weeds in the roads and alley ways between the plats. Sorghum on the Rotation plats is up, a good stand being secured the first planting. The beam and Sorghum Varieties planted on the odd plats are also up with good stands. Along the roads and

Scottsbluff, cont'd:

the edges of the plats young grasshoppers are hatching out by the millions. They are especially numerous in the oast and alfalfa plats. An effort will be made to check them. Harvesting the first cutting of alfalfa is in progress throught the valley, the irrigated plats on the Station producing better than an average yield for first cutting. That on Dry Land Plats will be cut Monday.

Maximum temperature for the week-95; min., 54; prec., T; evap., 1.663.

Sheridan:

The past week has been made of real growing weather, and all crops have made a surprising growth. There have been but two light showers, which were of no consequence. Temperatures have been abnormally high for this early in June, a temperature of 101 having been reached on the 14th.

Winter wheat is heading as well as oats planted on the 28 of March, and two varieties of barley. Alfalfa is beginning to bloom. Weeds are coming thick and fast. There is still a good supply of moisture stored in the soil for our immediate needs, but to mature small grains we will need some more.

A cultivator was started on the inter tilled plats, and plowing of summer tilled land has been in progress. We are turning under the winter rye for green manure on rotation today, it having blooned a couple of days past. Plat trimming is still in progress.

Mr. Max Pfaender from Mandan was a visitor on the 11th and 12th, and inspected the shelterbelt, as well as started plans for further tree plantings here, as well as the ornamental work on the station grounds.

Climatic conditions for the past week were - max., 101; min., 52; ave.wind, 4.3 mi.; evap., 1.736"; prec., .16".

Tucumcari:

There was no improvement in the weather during the week; on the contrary temperatures have been going higher, and prospects for a rain in the near future have entirely disappeared. On the 14th we had a maximum temperature of 101, accompanied by hot winds. We are having difficulty in keeping some of the shrubbery about the buildings alive in spite of the fact that we have supplied plenty of moisture. The June 15th planting in the sorghum date work is being made today; and it is necessary to use a lister to reach moist soil. Other work has consisted of cutting yucca, ceiling two rooms in the office and laboratory building, and painting the board fence surrounding the shrubbery next to the machine shed.

Mr. Nothgeb, of the Cereal Office, visited the station on the 14th.

Minimum temperature for the week, 61; ave.wind vel., 5.9 mi.; evap., 3.000"; prec., 0.

Woodward:

All crops are looking good and growing rapidly. We are rushing the

Woodward, cont'd:

thinning work thru as soon as possible. Some of the sorghums will be a foot high before we can get them thinned. We have finished plowing the fallow plats. The soil turned over in good condition and was moist below the plow line. Soil samples were taken during the week on plats A & C of MC corn and B & C winter wheat. In the corn plats the soil was moist down to a depth of six feet, "depth of sampling", and in the winter wheat the first two feet were moist, third and fourth in all cases and fifth in some, were quite dry, but there was an abundant supply in the sixth foot. We have harvested all of our wheat on the half acre fields and other small grain not in the rotations. Plat MCC (the fallow) was harvested at the same time, June 12th, but the other plats were not ready to harvest. They will do to cut some time next week.

The week has been hot and sultry with very little wind. It has been hard on the teams in all field work. All of the increase fields have been cultivated, winding up that work for awhile, as far as crops are concerned. There is some cultivation to be done yet around the wind-breaks, to destroy the weed growth.

The farmers have not begun their harvest yet but will probably begin some time next week. A large number of citizens from Woodward have signed up for harvest with the farmers.

Maximum temperature, 98 on the 11th and 14th; min., 65 on the 8th; ave. wind vel., 4.6 miles; evap., 1.699"; prec., 0.

NOTES:

The following memorandum was received from Dr. W. A. Taylor, Chief of the Bureau of Plant Industry:

> "Recent military developments, resulting in great demands on the man power of the country, raise in more emphatic form than heretofore the problem of deferred classification for men of draft age already in the service of the Department or under consideration for appointment. The Secretary of Agriculture has therefore instructed that every resource be exhausted to secure the requisite force before any men within the draft age are called into the service of the Department. No man of draft age should be added to the service unless the work to which it is proposed to assign him is essential and urgent and it has been fully and completely demonstrated that no other man can be secured to do the task in reasonably satisfactory fashion, or unless the work to which it is proposed to assign him is temporary in nature, or unless he has been rejected for military service on account of physical unfitness. In temporary work no man should be employed unless it is throughly understood that such employment will not in any way effect the operation of the selective draft law. In no event whatever should any indication be given to any contemplated appointee of draft age that his deferred classification may be requested".

NOTES, cont'd:

The following memorandum received from the Chief Clerk of the Bureau is self-explanatory:

> "In one or two instances of late, Bureau officials have been requested by Federal offices outside of the Department of Agriculture to give information in connection with investigations involving the personal integrity or loyalty to the United States of Bureau employees, and have supplies the information without subsequently advising the Secretary's office. It is the Secretary's wish that in future complete reports of such action be immediately furnished him in all such cases. Will you not kindly make such arrangements in your Bureau as may be necessary to assure compliance with the Secretary's wish".

It is the wish of the Secretary that we not recommend for appointment, during the period of the war, persons born in a country which is at war with the United States, or in a country allied with a country which is at war with the United States.

By order of the Chief of the Bureau.

The Agricultural Appropriation Bill, for the fiscal year 1919, has not yet passed Congress. It is at present under consideration by the Senate and House conferees.

If any of the field men are in possesion of extra copies of United States Department of Agriculture Bulletins, numbers 214, 219, 222, 224 and 268, not necessary for station use, kindly forward same to the Washington Office.

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BUR. OF PLANT INDU.

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

June 22, 1918.

REPORT FOR WEEK ENDING JUNE 22, 1918.
(Except where otherwise indicated).

Akron:

The first part of the week was very hot and dry. Spring grain suffered severely and oats were practically burned up. Barley and spring wheat did not suffer quite as much, but are burning badly. Winter wheat is filling and there is but very little that will not be harvested, but the yields will be low except on summer fallow, bean stubble or corn stubble. The last two days have been comparatively cool. Corn is growing rapidly.

Maximum temperature for the week, 101 on the 18th; minimum, 59; precipitation, 0.31 inches.

Amarillo:

Clear skies, medium high south winds and maximum temperatures daily over 90 degrees, describes our weather for the past week. The prarie, that a week ago looked green, has again assumed a parched withered appearance. Wheat and oats, now in the filling stage, have held up well enough except on the poorer plats. From soil samplings made in the wheat plats it was determined that out of the 3 inches of rainfall that came the latter part of May and the first part of June, there was stored 5% in plats A & C, and 7% in B Sp.Wheat C.C. 1st.foot. In the winter wheat plats A, B & C there was stored 8% in the 1st foot. Little, if any, moisture was stored below the 1st.foot from these rains. On B. sp. wheat and on the w.wheat plats water from run-off kept the surface moist for 4 or 5 days after the rain period. Out of the 3 inches of rainfall only from $\frac{3}{4}$ to 1 inch was saved for the crops. This shows how difficult a matter it is on our tight soil here after it once gets hot and dry, to some depth, to store moisture in it. Crusting and baking of the surface soil under these conditions are adverse characteristics among others.

Milo ans cowpeas stands are just fair, while kafir and sorgo had to be replanted. We are needing rain for these crops and must have it soons. Under the prospect of losing out on the row crops, farmers in this locality are beginning to feel blue sure enough. Some days during the past week have verged upon hot winds-especially so on the 20th, when the thermometer stood at 98 and the wind was sweeping over from the southwest. The row crops are being cultivated first time over.

Weather data for the week follows: max.temp., 98 on the 20th.;minimum, 63 on the 17th; hourly wind, 9 miles; prec., T; evap., 3.005".

Archer:

On account of the rains, only the first three days of the week were favorable for field work. Plats were trimmed along the roads with a surface cultivator. Some of the corn and other row crops were gone over with the weeder. Brome grass in rotation 41 and also some sweet clover were mown, but the rains have prevented raking and hauling. The brome grass was quite short because of not enough moisture during the past few weeks. The alfalfa has a good height and uniformity. It will be cut next week.

The rain this week completely saturated the fields and filled the buffaloe wallows. Since the rains if has been cloudy most of the time which is a good

Archer, cont'd:

thing to prevent rapid evaporation from the soil and crust formation. There was no hail with the rain. Total precipitation, 2.58 inches. Maximum temperature 90 on the 15th and 17th. Minimum 52 on the 18th. Means 83 & 55.

Bellefourche:

Cool weather, combined with a little rain stopped the firing of the small grain plats and enabled most of them to head. At present the variation between grain under different methods of cultivation is the most extreme ever noted at this station. Small grains on fallowed land have headed without their growth being checked to any extent. Other plats are heading at a height of not over six inches. Practically all grain in the three year rotations is very poor. In these three year rotations the grain on corn ground is no better than the grain on the continuously plats. In general the grain on corn ground is poorer in comparison with other crop sequences than is usually the case.

Alfalfa was harvested during the week. The yield from the two plats averaged .6 ton per acre. There was no crop of clover as it all winter-killed last winter.

Corn has reached the most advanced stage of growth for this date that it has ever reached since the station was started. Corn on fall plowing is several inches taller than corn on spring plowing. The corn in rotations where a sod crop is grown is distinctly better than the spring plowed plats in other rotations.

Winter rye on rotations 14 and 15 was plowed under on June 18th. It had reached a height of two and one half feet.

The rainfall for June to date has been .74 inch. The rainfall for the year to date is practically normal.

Maximum for week, 93; minimum, 51; prec., .47 inch.

Big Springs:

The week has been a period favorable to all farm work and weather conditions have been favorable to growing crops. Maximum temperature, 99; minimum, 64; wind velocity, 4.2 miles; evaporation, 2.63 inches; prec., none.

Crops planted last week and the fore part of this week have germinated well and a good stand has been secured with most of the crops planted. The work for the week has consisted of finishing planting variety and field crops. In addition to this , milo, kafir and feterite was thinned to a stand in the rotation and c.c series. The rotation and c.c.plats were cultivated to kill the big crop of weeds that had started since the rain.

Mr. Watson, County Agent of Dawson County, visited the station on Tuesday and Wednesday. He reports crops and range conditions are good in his county.

Colby:

The long spell of hot, dry weather was broken by a shower Thursday-night, and cool, cloudy weather since. The drouth conditions were relieved

Colby, cont'd:

very little, and the need of rain continues. Barley and spring wheat are turning white fast, and oats are filling poorly. Winter wheat, which is practically filled, is still standing the drouth comparatively well. Surface planted corn, which is now about eighteen inches high, began wilting during the hot weather, but the listed corn which has not made quite as much growth, has stood the severe conditions well. The sorghums are beginning to show fair stands, tho much of the seed is still in the ground with no moisture present to sprout it. Harvest will begin in about two weeks.

Weather for the week:-Maximum temperature, 103; minimum, 59; prec., .14".

Dalhart:

The hot dry weather whcih prevailed during the past week was continued during the present week and up until Friday night, when a light shower of .82 inches fell. Crops are making a good growth and with the exception of some of the corn, which was planted early, and is now about 16 inches high, none of the crops are suffering for want of moisture. Considerable damage has been done to some of the milo and kafir plots by the gophers, and it may be that some of these plots will have to be reseeded. Some poison has been spread for the gophers, but the results obtained have not been as effective as upon former occasions. Within the last few days a number of grasshoppers have appeared on some of the plots. They are not, however, numerous enough to do a great deal of harm at present.

Maximun temperature for the week, 98 which occured on three different days. Minimum. 59; prec., .82 inches.

Hays:

Maximum, 105; minimum, 62; prec., none. Dry, hot weather and hot winds have been the prevailing conditions during the week. So extreme has been the conditions that harvest has come about ten days earlier than it should have arrived. As a result, the small grains have dried up rapidly. Yesterday and today, all the barley plats and most of the winter wheat has been harvested on the project, except a few plats where the wheat was seeded on fallow or on corn stubble. It now looks as if the remainder of the wheat and the oast will be ready for the binder by Monday. Spring wheat is considerable greener, and should not be ready for several days, unless the present hot weather conditions continues without rain. Grasshoppers are quite numerous. Poison is being spread for these insects.

The best of our 40 bushel yields estimated a few weeks ago, have been cut once in two by the hot winds, and most of the yields have been cut in two about twice or three times. Quality of all will be very poor, except on a few of the fallow plats. Mr. O. J. Grace visited the station Wednesday.

Huntley:

The temperature during the past wek was somewaht lower than for the previous seven days. Though several light showers fell, the precipitation was not of sufficient amount to benefit crops. Winter wheat is burning badly on all plats and spring small grains are beginning to suffer. Barley and oats

Huntley, cont'd:

seem to be worse off than spring wheat or flax. Oats are heading out at a height of 8 to 10 inches.

Peas, rye and sweet clover in the green manure rotations were plowed under. The rye and sweet clover plats plowed up dry and lumpy, but the pea ground had enough moisture to permit a good job to be done.

On field G, half acre plats of alfalfa, brome grass and sweet clover were cut for hay. The brome grass made a very good quality of hay, tho the yield was light. Alfalfa and sweet clover were very dry and shattered badly when handled. Yields obtained were as follows:

Sweet clover in rows	1620	pounds	per acre
Sweet clover in broadcast	1260	"	" "
Alfalfa in rows	1224	"	" "
Alfalfa broadcast	1800	"	" "
Brome-grass in rows	1392	"	" "
Brome grass broadcast	720	"	" "

Hogs on rye pasture averaged a little less than one-half pound gain a day during the last 14 day period. The forage is of poor quality and very little of it is being eaten. The animals will be shifted to the pea plat early next week. On the alfalfa pastures the hogs are still making satisfactory gains, though the forage is drying up badly and becoming unpalatable. The average daily gaons for the past 14 days were: broadcast plat, .71 pounds; row plat, .86 pounds.

Maximum temperature for week, 93; min., 50; prec., .19 inch.

Lawton:

High temperatures and hot winds during the past week have been destructive to all growing crops. Much of the corn throughout the county has been burned beyond recovery. All of the sorghum crops have but a scanty supply of soil moisture and show the need of rain badly. Feterita in M.C.A. and B is beginning to head. Red Amber, seeded April 19th, is also beginning to head. Sweet clover seems to be nearly dead. Severe injury has been inflicted on this crop by a small web-weaving worm which has not yet been throughly identified. We have a pest of some kind at the present time for each of the crops that are growing. Young brome corn was badly burned by the hot winds. Plats M.C.A. and C. will have to be reseeded whenever it rains, because of chinch bug depredations. A few tassels are appearing in all of the corn plats, but many of the stalks are burned beyond recovery.

Combative measures on chinch bug controll are not so vigourously prosecuted at the present time. The work was more successful this year than at any other time in the past. There is, however, a general infestation in all sorghum crops, and their injury from now on will be determined more or less by the weather. Shoulf favorable growing weather follow, it is likely that the crops will hold their own.

Thinning of grain and forage sorghums constituted a major portion of the work during the week and will be completed within two or three days. All crops were cultivated as fast as they were thinned. Maximum temp., 106 on the 22nd.prec., .10 on the 22nd. Hot winds occured on the 19th to 22nd. The wind velocity was unusually low.

London:

Agronomy

One light shower occurred the first of the week, otherwise the weather has continued dry. Grain still continues in good condition; oats have begun to head.

The week has been spent largely in cultivating and hoeing to kill and check weeds; the first crop of alfalfa hay has been cut.

Mr. Free of the Office of Corn Investigations has been here for the last two days giving attention to the work of that office.

Grass was clipped on quadrats of the clipping experiment the first of the week.

Max. 89', min. 49', precipitation .29 inches.

Horticulture

Cultivation and hoeing was continued throughout the week. The beds and greenhouse potted fruits were watered. Nursery work consisted in summer pinching of young shoots for the production of bush trees of apples and plums.

Routine work with vegetables and on the grounds.

North Platte:

Hot dry weather continued up to and including the 20th. All grain crops suffered severely. Some winter wheat in the vicinity will scarcely be worth cutting, while other fields may make a fair crop. .50 inches of rain fell the night of the 20th and the two days since that have been quite cool. These condition are very beneficial to small grain and should they continue for 10 days the grain crop will be fair.

Smyrna barley and Prelude wheat will be ready to harvest next week.

Scottsbluff:

The past week has been moderate in all respects. The drouth, which was fairly started, was broken off very abruptly by a rain of .96 inches coming very gently and being entirely absorbed.

A round of moisture determinations was completed on the Corn and Spring Wheat plats of the M.C. series, the soil being fairly moist to a depth of 3 feet.

Vigorous weed growth had started on the Fallow plats and these were plowed under during the week. Other field work consisted of thinning out and cultivating the corn plats. The alfalfa, clover and brome grass plats were also mowed but owing to the rain they have not dried out sufficiently to be weighed. Oats on many of the plats are beginning to head out but they do not appear to be very well filled. Max. 96, min. 59, precip. .96", evap. 1.815".

Sheridan:

Crops have made a splendid growth during the week, and a number of them havecome into head. All but one variety of winter wheat are fully headed, as

Sheridan, cont'd:

well as three varieties of oats. A number of barley varieties are also heading.

Barley on rotations is heading, oats are in the top of the boot and spring wheat well up in the boot. Alfalfa is blooming and will soon be harvested.

Prospects for a good crop are far better here this season than last, as at no time has the moisture content of the soil been low, and we had about .78 in. of rain during the week, the greater part of which went into the soil. The heaviest rain that the writer has seen for years fell on the evening of the 18, when .68 fell in 15 minutes and the best part of it was that in the field it all went into the soil and I think will make winter wheat and possibly other small grains.

Corn has made a very rapid growth, standing at present, 12 inches high. Cultivation of corn was begun and other row crops are now being cultivated the first time. All plowing of summer tilled land has been finished and the land harrowed twice to work it down. Weeds are being removed by hand from a great many of the and especially those most harmful, and those that are not native here, having been introduced in seed from other stations. We have been trying to keep the station free from blame of introducing new weeds.

Potatoes have had to be sprayed twice this season, but we now have the bugs about conquered.

The basements under the two houses are about to be finished and we expect a car of coal the latter part of the coming week to fill them.

Climatic data collected during the week was as follows;- Max. 90, min. 52, avé. wind vel. 4.3 mi., evaporation, 1.797 in. and precip. .78 in.

Woodward:

The week has been hot and sultry up until Friday and today which have been cloudy and cooler. We had fair indications for a rain last night and this morning but the clouds have blown over leaving a clear sky this afternoon. The indications are still inour favor for a rain as the clouds seem to be gathering low along the horizon. The field work has been going on without delay and we are getting caught up with our work in good shape. The rotations are clean and the crops looking fine and growing rapidly. The field corn is rank and the tassels are just beginning to emerge. Some photographs were taken of some of the plats of corn this morning showing the comparative difference between two plats adjoining, these plats being A & B, B & C, and F & G.

We have finished our wheat harvest and everything is in the shock. The farmers are rushing their harvest along as rapidly as possible. They have been at it all week and are making good headway in spite of the few hot days we have had. They seem to be well supplied with labor but the streets in town are bare. Woodward looks like a deserted village.

Max. temp. 104 on the 20th, min. 69 on the 21st. We had a very little wind this week but two days of it were hot, however no damage was done to any of the crops other than to cause them to roll.

NOTES:

Under date of July 5th the Agricultural Appropriation Bill had not been passed nor had a Continuing Resolution been yet passed to authorize expenditures for the month of July, pending action upon the Appropriation Bill.

It appears that a flat rate for privately owned automobiles used in official work of the Department will be allowed in the Appropriation Bill for the fiscal year 1919. Such field men who have automobiles or motorcycles should therefore notify this office at once.

Field men are requested to return Transportation Requests to this office for the fiscal year 1918 as soon as possible.

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JUL 26 1918
PLANT INDUSTRY

WEEKLY STATION REPORTS

of the office of

DRY LAND AGRICULTURE INVESTIGATIONS

Bureau of Plant Industry

U. S. Department of Agriculture

JUNE 29

REPORT FOR THE WEEK ENDING JUNE 29, 1918.
(Except where otherwise indicated).

Amarillo:

The drouth persists without any sign of abatement. The weather bill for the week has practically been an exact duplicate of that for last week with clear skies moderately high winds, high temperatures and evaporation. Two or three thunder cloud threats failed to materialize more than a small sprinkle of rain. Maximum temperature was 102 on the 28th., minimum 64 on the 26th. Average hourly wind 8.9 miles. Precipitation .04 inch. Evaporation 2.836 inches.

We are setting up a new 4 foot evaporation tank weather bureau standard here to-day. First cultivation of row crops was completed early in the week and these are now being gone over with the hoe to cut out weeds in the row. Because of the dry soil replanted kafir and sorgo are not coming up with anything like a stand. Rain will be required for this. The oats are ripening fast and will be cut sometime next week. Wheat also has commenced turning white. Corn, milo and cowpeas are holding up remarkably well under the circumstances tho the growth is much retarded.

Plowing for the season's fallow plats will be completed to-day. This work has been delayed on account of the rush of planting and tending to the row crops during the past month. In spite of the dry soil condition a fairly good job of plowing has been accomplished. A moderately heavy growth of thistles had come onto the small grain stubble plats that have just been plowed for fallow.

Bellefourche:

The past week has been fairly cool and grain crops have not suffered noticeably. A rain of .79 inch during the latter part of the week helped them considerably. Only the fallowed plats give any promise of a fair crop, the other plats all being very short. Barley is now in the soft dough stage. Many of the heads are still in the boot but seem to be filling fairly well nevertheless.

Corn is now from twelve to eighteen inches in height. Usually at this date it is not over six inches in height.

The farmer's picnic this year will be held on July 20th.

Big Springs:

The week just closed has been the hottest experienced so far this season. Maximum temperature 103, minimum 69, wind velocity 5.6 miles, evaporation 3.03 inches, precipitation none. The hot winds on Thursday, and Friday, has been hard on small plants that has lately come up. Considerable young cotton has died the past few days and more of it will go, unless rain comes soon. All crops planted and up before the big rains the fore part of the month are still doing well on most of the plats. Total precipitation for June, 3.53 inches. All this rain fell during the first eight days of the month. Total rainfall from January 1st to July 1st, 6.24 inches, which is 1.59 inches below the normal. With the exception of the month of June, most of the precipitation received since Jan. 1st, has been in the form of light showers on different dates, consequently, the good done has been below the average.

Big Springs cont'd:

The work of the week has consisted of cultivation and hoeing out crops. Some thinning was done on a number of the cotton plats.

Colby:

Rain has threatened every day but the dry weather continues. Harvest has begun and will be on in full blast Monday. The barley on the plats was cut Wednesday. All but the corn ground plat were tall enough to bind well, but M. C. C. is the only one that promises a creditable yield. Having received no moisture since the last of May and having passed thru a very hot month barley did not fill well. The spring wheat and oats are drying so that the yields will be very small. Winter wheat ranges in height from 16" on M. C. B. to between 36" and 40" on some of the fallow plats. Up to a week ago it was filling very well, but this week it has ripened prematurely. In spite of this there will be a fair yield, 25 bu. or more on some of the best plats. Corn is standing the weather well but is suffering some from the multitudes of grass hoppers which infest the country this year, the worst invasion in the history of the station. Poison was spread, and on some of the plats the dead hoppers fairly cover the ground. Blister beetles are stripping the potatoes worse than the hoppers are the corn. The vines are fairly covered.

Weather for the week:-Maximum temperature 97, minimum 56, precipitation 0. Precipitation for June .19", 1917 1.42", average 3.10", lowest previous June 0.71 in 1910. Unless rain comes before tomorrow night this will be by far the driest June on record.

Dalhart:

To date one and twenty three one hundredths inches of precipitation has been recorded during the month of June. .82 inches of this came at one time, the balance in 4 different showers and as a result the crops have not derived a great deal of benefit from the months precipitation. This is .20 inches more than fell last year during the same month but is 1.41 inches less than the past ten year average for June. This brings the total precipitation for the year up to 9.95 inches as against a total of 4.42 for the corresponding period in 1917. The ten year average for the same period is 8.09 inches.

The crops are making a very slow growth regardless of the fact that there would seem to be sufficient moisture in the soil and favorable weather conditions. All of the crops have been cultivated at least once and some of the plots twice. Weeds have become more troublesome since the weather has gotten hot and dry but they are still under control. We are needing rain to harden up the top soil before any further cultivation can be made effective. Corn is about 20 inches high and the early milo about 6 inches high.

Maximum temperature for the week 99. Minimum 61. Precipitation .05.

Garden City, report for two weeks ending June 29th:

The past two weeks has been a period of variable weather conditions, on several days severe, hot winds did considerable damage to growing crops, while cool, cloudy weather prevailed during other days. On the night of the 20th 1.84" of rain fell in less than two hours time, and while in general it did a

Garden City, report for two weeks ending June 29th, cont'd:

great deal of good, it also did considerable damage on portions of the station where the slope of the land is considerable. Parts of several plats of milo, kafir and corn were washed out and the surface soil packed very hard over the entire project.

Fallow plats and green manured plats were plowed and harrowed during the past two weeks. The green manured plats were dry and plowed up very badly.

Other field work for the past two weeks has been confined to cultivating, soil sampling, etc.

Mr. C. B. Brown, Superintendent of the Tucumcari Field Station, was a station visitor on the 25th.

M Max.temp.,103;min.,63:evap.,5.468",prec., 1.84"wind.vel.,(8' anemometer), 11.4 miles; (2' anemometer) 8.9 miles.

Hays:

Harvesting of the small grains on the plats was completed today, 29th, the last being a few of the spring wheat plats.

One of the heaviest crops of has been harvested, but it will be far from the heaviest of grain crops harvested. All the grain is very badly shriveled, - much of it so badly shriveled that it will be difficult to prevent a large part of it going over with the straw when it comes to threshing.

Harvesting on the Station fields is about half finished, and I would say about one third of the wheat in this locality has been harvested. Although pretty warm the first few days of harvest, generally it has been comparatively cool for harvest season.

Corn about 24 inches high and sorghums about 18 inches on the project. Corn throughout the country about the same height as that on the project. Sorghums vary and range from three or four inches to eighteen inches, depending upon the earliness of planting. These crops have not yet suffered any damage from drouth, although some wilting has been observed for several days. A rain would do all the row crops a lot of good. Continued drouth will soon retard the growth materially.

Maximum temperature for the week, 105, minimum, 48. Precipitation, .10 inches. Total for the month of June, .53 inches.

Soil moisture determinations and spreading of grass hopper poison has been the main work aside from that of finishing the harvesting. Part of our regular D. L. A. crew are now being spared to help with the harvest on the general fields while labor is so scarce and high priced.

Huntley:

Cool weather and several good showers revived crops considerably during the past week. Two light hail storms occurred, but practically no damage was done to field crops, other than tearing of corn and sunflower leaves and slight lodging of the heaviest winter wheat plots. The dry-land garden, however, was damaged considerably, especially the broad leaved vegetables.

On the rotations spring grain is all headed and has grown several inches taller since our first rain early in the week. Flax has finished blossoming on most plats and the bolls are well formed. Alfalfa and brome grass on rotations 42 and 41 were harvested, a light yield of poor quality hay being obtained.

Huntley, cont'd:

The second cultivation of corn has been completed and the second cleaning of roads and alleys is in progress. Weeds, which have given us little trouble this spring, are now making their appearance in large numbers.

On Field G, hogs on rotation 652 were moved from the rye plat to the pea plat and the peas on rotation 651 were harvested. Because of the lodged and badly tangled condition of vines, a clean job of harvesting was impossible.

Plats from which hay crops were removed a week ago are now covered with a mat of young Russian Thistles. Sweet clover and alfalfa have started a good second growth, while that of brome grass is light.

Temperatures for the week: Max., 91: min., 43: prec., .99 inch.

Judith Basin:

Several showers have occured during the past week and crops are looking better than they were a week ago. Only one day remains in June and we have thus far had less than half of the normal June precipitation. Maximum temperatur for week, 79; min., 38; evap., 1.352 in.; prec., .77 in.

Alfalfa, clover and Brome grass plats in the rotations were cut on the 28th of this month. The alfalfa was less than a foot in height, and the Brome grass was about 2 feet.

Corn planted on June 18th is now up and good stands have been secured.

Mr. Woodward arrived here on June 25th to look after Forage Crop work, and most of the alfalfa plats under his care have been cut.

Early varieties of oats, barley and wheat are now heading out at the cereal variety testing plats.

Lawton:

All growing crops have suffered another week of disasterous climatic conditions. Hot winds occured daily throughout the week and the maximum temperatures during the week ranged from 101 to 108. The average maximum temperature since the 18th of the month, is 103.7. On the night of the 28th a severe wind resulting in 0.61" of precipitation, but the wind is hot again this afternoon.

Corn is completely burned up. Several plats were cut on the 28th and the remaining plats will probably have to be harvested within a short time. Practically all of the sorghums crops on the station are still withstanding the drought in very good shape. Feterita in the MC A,B and C broomcorn plats were reseeded on the 29th. This makes the 4th seeding. Other seedings failed to germinate or were killed by chinch bugs. Milo on wheat stubble in Rotation 249 and cowpeas on wheat stubble in rotation 250 were planted on the 29th. Practically all thinning of sorghum crops except one of the latter dates of planting was completed during the week.

A trip of about 40 miles through the eastern part of the state was made during the week to observe the present condition of crops. But a small acreagee of corn was observed and that was in every case burned up. Many of the fields of kafir seemed to be burned beyond recovery. Some of them would possibly make some forage under favorable weather conditionsfrom now on, but it is doubtful if any grain would be produced. A few fields seem to be recentle replanted to

Lawton cont'd:

some feed crop or cotton but were usually quite weedy. The only crop on the entire trip that looked at all encouraging was cotton. Pastures are extremely short and but few cattle were seen. Considering the season as a whole farmers have striven to produce feed and food under extremely unfavorable climatic conditions and as yet they have but very little to show for their efforts.

Mandan:

Horticulture.

This week the work consisted mainly in cultivating, followed by hoeing where necessary.

Sprouting grafts and buds, with summer pinching took up most of the time in the nursery.

Seedling Juneberries are ripe on the testing blocks; the hand crossed fruits in the greenhouse are ripening fast, quite a few have already been picked and planted.

The bees have increased very rapidly this year, three strong swarms have already been secured from the two old hives, making five all told at the Station.

Thinning, staking and harvesting was in progress in the vegetable variety trials.

Aboriculture.

Cultivation of tree plots continued this week, hand weeding has been done in the ash tree and conifer fields.

Summer fallowing was begun on the section of Field P, that is to be used for tree work next year. Disking was completed on the Field O summer fallow.

Mess. Cobb and Danson inspected shelterbed plantings on the farms of some thirty six farmers in Morton and Grant Counties, Thursday and Friday, travelling 372 miles by car. Not so much winter injury was noted as last spring, but rabbits have eaten ash and elm to the ground or snow line in many instances.

Practically all the plantings that have received proper treatment are making a fine growth, many of the 1916 plantings being from four to six feet high.

The continued drouth has not affected the tree growth as yet, though many fields of small grains passed on the trip show signs of burning.

Agronomy.

Alfalfa was weighed during the week and yielded about one ton per acre. The yields from the rows proved slightly heavier than from the drilled plats.

No rain during the week. Crops are still in good condition in the main field, but on the heavier soil of the south field small grain is suffering.

Wheat is starting to head out. Oats already are fully headed.

The total rainfall for this month to date is .68 inches, as compared with 2.56 last year and 3.62, the forty year mean for this section.

Mr. R. S. Towle left for Urbana, Ill., where he expects to go into training for the Aviation Service.

Maximum 92, Minimum 44, Precipitation none.

Mandan cont'd:

Cooperative Grazing Experiment:- Grasses made but little growth during the week, due to the dry weather.

Professor J. H. Shepperd of the Agricultural College visited the Station early in the week in the interests of the grazing experiment.

Mr. D. E. Willard, Development Agent for the N. P. Ry., inspected the experimental work at the Station, June 23-24th.

Sheridan:

While the last week has been cool all crops, even corn, have made a surprising growth. Three varieties of spring wheat are in full head 5 varieties of barley and 3 of oats as well as all of the winter wheat. It is noted that the tassels of corn are forming but are not yet in sight.

A rain of .58 last night, made spring small grains, sure of a crop baring hail. Winter wheat, I think, is made, and we expect really good yields. There is an abundance of moisture in the soil now.

The last of the plats were squared this week, and the first cutting of alfalfa and sweet clover made, in the Forage field. Dry weights have not yet been made. Alfalfa and brome grass from Rots. 41 and 42 was also cut and has been weighed.

The concrete work on the basements has been finished on the inside of the basements, but the chutes on the outside are yet to be made.

Weather for the week as follows:- Max. 85; Min. .47, precip. .58, wind vel. 3.5 mi.

Tucumcari:

The weather remains hot and dry and field operations are at a standstill. The sorghums in the date work that have emerged are not making any growth. On the 22 we had .58" precipitation but this merely wet the surface and was soon evaporated. There have been some very good showers in the immediate territory surrounding the station but these have been very local and the greater part of this country is having as severe conditions as we are having on the station. On the 27th, 28th, and 29th, there occurred hot winds accompanied by maximum temperatures of 101, 108, and 108 respectively. Some of the shrubbery in the enclosed court was killed back on these days. Station work has consisted of tinting the rooms in the mess house and office and laboratory buildings. With the exception of one office room this work has been completed. Several acres of yucca have also been cut.

In a trip by rail, northwest of Tucumcari on the El Paso & Southwestern Railroad the writer noted that around Roy, New Mexico and from there on to French New Mexico the range is in fair condition and that rowed crops are starting growth.

Summary of climatic measurements for June, Mean Maximum, 93. Mean Mimimum 64. Maximum temperature for month 108. Minimum for month 53. Precipitation .80". Evaporation, 12.219". Average wind velocity 7.0 mi.

Williston:

Crop conditions in this section are serious. There has been no rain in five weeks, except six showers totalling .4 of one inch. There was no reserve moisture in the soil and in spite of the ample moisture of April, the half normal

Williston cont'd:

rainfall of May and nothing of value in June, are allowing the crops to dry up. Several days with over 100 degrees of temperature, and hot winds have been very detrimental.

The wheats on the dry land plats are heading, but still look fair, altho short. Barleys are unpromising, and oats looks thin, but has not yet commenced to head, and a rain now would give it a chance to produce feed. Corn is doing very well, and has a thrifty appearance.

Grain in the vicinity is suffering. Most of it is sown later than the crop on the station, and has a better chance to recover should a rain come soon. The rye was caught in bloom by a period of hot winds and heat, and badly blighted. About fifty per cent. of it is being cut for hay. The same general conditions exist in the southern half of this county, the counties to the east and south, and over in eastern Montana.

Woodward:

The rain clouds in this part of the country have been mostly a bluff. We got three little showers, one amounting to .24 of an inch and the other two .03 of an inch each. These will do a little good because it has been rather cool since we received them. Twice it has clouded over and thundered, giving us an electrical storm and no rain. It seemed to be raining all around us but none of it came our way. We had four days of hot winds this week but there is no noticeable damage to any of the crops. They rolled a little during the hottest part of the day but freshened up by morning. None of it has burned any up to this tiie and it is growing rapidly. The corn is beginning to tassel and if the hot winds stay off for a few days the tassels will make it thru without being burned up. Some of the earlier corn that tasseled during the hottest period was pretty badly burned and the tassels killed. This however was not on the station.

The farmers are about to wind up their harvest. They have lost only a half day on account of rain. For several days when it was so hot they let the teams rest for about two hours at noon, and worked a little later in the evening. We have all our thinning done on the rotations. We have about two more days thinning on the cotton and cowpeas in the cooperative tests. We are cultivating the rowed crops (sorghums) today. The cowpeas and cotton were cultivated the first of the week and are in good condition. The field corn is so high we can not cultivate it with the regular cultivator. We will have to use the five shovel on it.

Weather report: max. temp. 105.5 on the 24th., min., 66 on the 28, average hourly wind velocity 6.8 miles, evaporation 2.359 inches, precipitation 0.28 inches.

Notes:

Mr. J. S. Cole left Washington July 9th for a trip to the field. He will visit the Southern Stations of this office.

Letters of Authorization have not yet been issued. Same will be mailed out as soon as received.